

## SEQUENCE LISTING

<110> REGENTS OF THE UNIVERSITY OF CALIFORNIA  
 TSIEN, Roger  
 TING, Alice  
 ZHANG, Jin

<120> EMISSION RATIONOMETRIC INDICATORS OF PHOSPHORYLATION

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<170> PatentIn version 3.0

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 ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc 144  
 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys  
 35 40 45  
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 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe  
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 65 70 75 80  
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 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg  
 85 90 95  
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 Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val  
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 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile  
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 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val 175  
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caa cta gca gac cat tat caa caa aat act cca att ggc gat ggc cct 576  
 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro 190  
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gtc ctt tta cca gac aac cat tac ctg tcc aca caa tct gcc ctt tcg 624  
 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 205  
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aaa gat ccc aac gaa aag aga gac cac atg gtc ctt ctt gag ttt gta 672  
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 35 40 45

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe  
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Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln  
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His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg  
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Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val  
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Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile

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Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val  
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Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro  
 180 185 190

Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser  
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 Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr  
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ctg acc tac ggc gtg cag tgc ttc agc cgc tac ccc gac cac atg aag 240  
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 165 170 175  
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 Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly  
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 ccc gtg ctg ctg ccc gac aac cac tac ctg agc acc cag tcc gcc ctg 624  
 Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu  
 195 200 205  
 agc aaa gac ccc aac gag aag cgc gat cac atg gtc ctg ctg gag ttc 672  
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Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr

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115 120 125

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr  
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Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn  
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Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser  
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Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly  
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Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu  
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Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe  
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35 40 45

Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr  
50 55 60

Leu Thr Trp Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys  
65 70 75 80

Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu  
85 90 95

Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu  
100 105 110

Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly  
115 120 125

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr  
130 135 140

Asn Tyr Ile Ser His Asn Val Tyr Ile Thr Ala Asp Lys Gln Lys Asn  
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Gly Ile Lys Ala His Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser  
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Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly  
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Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu  
195 200 205

Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe  
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Phe Gly Tyr Gly Val Gln Cys Phe Ala Arg Tyr Pro Asp His Met Lys  
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Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu  
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Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr  
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 Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser  
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gtg cag ctc gcc gac cac tac cag cag aac acc ccc atc ggc gac ggc 576  
 Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly  
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 Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Tyr Gln Ser Ala Leu  
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Phe Gly Tyr Gly Leu Lys Cys Phe Ala Arg Tyr Pro Asp His Met Lys  
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Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu  
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Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu  
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 Lys Ser Ile Tyr Met Ala Lys Lys Pro Val Gln Leu Pro Gly Tyr Tyr  
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 tat gtt gac tcc aaa ctg gat ata aca agc cac aac gaa gac tat aca 680  
 Tyr Val Asp Ser Lys Leu Asp Ile Thr Ser His Asn Glu Asp Tyr Thr  
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<213> Artificial sequence

<220>  
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<400> 24

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1 5 10 15

<210> 25  
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T01250 T6259860

<220>  
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<400> 25

Glu Ile Tyr Gly Glu Phe  
 1 5

<210> 26  
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<210> 27  
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<220>  
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 cgcctgcaga gtctgatgtc caaagtgtta gg

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 cgtcgcgcca gcctgccagg caccggcggc agc

<210> 29  
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<400> 29 33  
 gctgccgccc gtggctggca ggctggcgcg acg

<210> 30  
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 T04250.F6259660

<213> Artificial sequence

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gcctccgtcg cgccgcactg ccaggcaccg gc

32

<210> 31

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<223> Primer for PCR

<400> 31

gccggtgcct ggcagtgcgg cgcgacggag gc

32

<210> 32

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<400> 32

Leu Arg Arg Ala Ser Leu Gly  
1 5

<210> 33

<211> 9

<212> PRT

<213> Artificial sequence

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<223> Synthetic peptide

<400> 33

Ala Gln Arg Ser Thr Ser Thr Pro Asn  
1 5

<210> 34

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<212> PRT

<213> Artificial sequence

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<222> (1)..(6)

<223> Xaa is any Animo Acid

0985291-052401  
T04250-T0259860

<400> 34

Arg Ser Xaa Ser Xaa Pro  
1 5

<210> 35  
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<400> 35

Arg Arg Xaa Ser  
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<220>  
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<223> Xaa is Serine or Threonine

<400> 36

Arg Xaa Xaa Xaa  
1

<210> 37  
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<220>  
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<220>  
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<222> (1)..(1)  
<223> Xaa is Lysine or Arginine

0066291 052404  
T04250 16259860

<220>  
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 <222> (2)..(3)  
 <223> Xaa is any Amino Acid

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<400> 37

Xaa Xaa Xaa Xaa  
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39

<210> 39  
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60

agatccagag tgagacccca cgggttgctc taggcacag

99

<210> 40  
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35

<210> 41  
 <211> 93  
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0985591.052401  
 104250.16259860

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&lt;223&gt; Reverse primer for PCR

&lt;400&gt; 41

caccatgagc tcaaattcac cgtagatctc agaaccctca ccagaaccg gcttcccaga 60

tccagatgta gacccacaga cgtagtcag gcg 93

&lt;210&gt; 42

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Artificial sequence

&lt;220&gt;

&lt;223&gt; Synthetic peptide

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (2)..(2)

&lt;223&gt; Xaa is Arginine or Lysine

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (3)..(3)

&lt;223&gt; Xaa is Phenylalanine, Arginine, Serine or Asparagine

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (4)..(4)

&lt;223&gt; Xaa is Arginine, Histidine, Lysine

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (5)..(5)

&lt;223&gt; Phosphorylated peptide

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (6)..(6)

&lt;223&gt; Xaa is Tryptophan, Tyrosine, Phenylalanine, Leucine

&lt;400&gt; 42

Arg Xaa Xaa Xaa Ser Xaa Pro

1

5

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